

Notice of Allowability

Application No.

10/800,483

Examiner

Mike Qi

Applicant(s)

SATAKE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the response filed on 4/27/07 and 4/30/07.
2. ☒ The allowed claim(s) is/are 42,43,47-53,57-64 and 68-80.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/332,792.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 4/27/07
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 27, 2007 has been entered.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

1) The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Accordingly, the title should be changed into - - Camera and Personal Computer having a reflection type liquid crystal device with particular dielectric multi-layer film and interlayer insulating films - -.

2) In the specification, page 6, line 12, " Figs 2A and 2C are . . . " should be changed into - - Figs 2A to 2C are. . . . - -

Allowable Subject Matter

1. Claims 42-43, 47-53, 57-64 and 68-80 are allowed.
2. The following is an examiner's statement of reasons for allowance:

The terminal disclaimer filed on June 13, 2005 and December 13, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US patent No. 6,707,521 and US 6,426,7897 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claims 42-43, 47-53, 57-64 and 68-80 are allowable because the prior art of record neither anticipated nor rendered obvious that a reflection type liquid crystal device comprises various elements with specific features recited in the claims 42, 52, 60, 68, 71 and 76:

Claims 42, 52 and 60, an interlayer insulating film being formed over the thin film transistor and the first substrate, a pixel electrode being formed over the interlayer insulating film, a dielectric multi-layer film formed on the pixel electrode (a first dielectric layer having a first refractive index formed over the pixel electrode, a second dielectric layer having a second refractive index formed on the first dielectric layer), the pixel electrode has convex or concave portions, and the second refractive index is higher than the first refractive index, and the second refractive index is in a range of 1.8 to 6.0, and the first refractive index has a ratio of 0.7 or less with respect to the second refractive index as shown in Figs.1 and 4C;

Claim 68, a first interlayer insulating film formed over the switching element, a second interlayer insulating film having organic resin with a plurality of first protrusions

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over the first interlayer insulating film, a pixel electrode over the plurality of first protrusions and the surface of the pixel electrode having a plurality of protrusions, a first dielectric layer having a first refractive index formed over the pixel electrode, a second dielectric layer having a second refractive index formed on the first dielectric layer, and the second refractive index is higher than the first refractive index, and the second refractive index is in a range of 1.8 to 6.0, and the first refractive index has a ratio of 0.7 or less with respect to the second refractive index as shown in Fig.1 and 4C;

Claims 71 and 76, a first interlayer insulating film over the switching element, a second interlayer insulating film having organic resin with a leveled surface (with a first leveled surface) over the first interlayer insulating film, a pixel electrode over the leveled surface (over the first leveled surface) and the surface of the pixel electrode having a plurality of protrusions having an oxidation film, and a first dielectric layer (having a second leveled surface) formed over the plurality of protrusions, a second dielectric layer formed on the first dielectric layer (formed on the second leveled surface of the first dielectric layer), and the second refractive index has a different refractive index from the first dielectric layer as shown in Fig. 2B and Fig.2C.

The references in the IDS do not teach the pixel structure as claimed. Such as the reference US 6,781,652 B1 (Nishi) teaches a pixel electrode having porous layer and that is different from this application.

Conclusion

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (571) 272-2299.

The examiner can normally be reached on M-T 7:30 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Mike Qi
June 25, 2007